

Application No.: 10/730,289

Docket No.: 500202301-2 US (1509-439)

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The Office Action of October 31, 2005 has been carefully studied.

During a conversation on January 20, 2006, between the undersigned attorney for Applicant and Examiner Carpio, the Examiner indicated a typographical error existed on the last full paragraph of page 2 of the Office Action because the Office Action should have said claims 1, 4-14 and 20 are rejected as being anticipated by Daoud, U.S. Patent 6,781,851.

In any event, Applicant cancels claims 1-20, and replaces them with new claims 21-39. New independent claim 21 is directed to a personal computer having a wall carrying a grounded electromagnetic shield mass that is stationary with respect to the wall. The shield mass has passages with electrically conductive surfaces. The passages are sized and shaped to substantially confine electromagnetic radiation that the personal computer is adapted to generate, and that has frequencies in a known frequency range, to the interior of the personal computer, and provide a relatively low thermal impedance path for the escape from the computer of thermal energy generated in the computer. The shield is stationary with respect to the wall.

In the previous Office Action, the Examiner relied on Schmitt, U.S. Patent 6,278,606, in view of Daoud, to reject claims directed to a computer. The position of the Examiner was that it would have been obvious to replace the movable shields 34 and 36 in the chassis of the computer disclosed by Daoud et al. Shield 34 is indicated to be quick detachably connected to wall 30, as is shield 36; see column 2, lines 25-26, as well as column 2, lines 36-42. One of ordinary skill in the art would not have put the Daoud et al. electromagnetic interference shield made of a non-rigid porous metallic material and a conforming element on the shields 34 and 36 of Schmitt et al., because such an arrangement would have substantially increased the area in the computer required for the devices to be put in the bays behind the shields. The shields are located in front of ays for

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equipment to be loaded into the computer. Further, a shield of the type disclosed by Daoud et al. is not feasible in the Schmitt et al. structure because the Daoud et al. shield cannot easily be made quickly detachable to wall 30 of Schmitt. Such a feature was a main reason for the Schmitt design.

Claims 22-30 depend on claim 21, and are allowable therewith. In addition, many of these claims include features not disclosed or made obvious by the applied references. For example, claim 22 requires surfaces of the passages to include electrically conductive walls that extend directly between opposite surfaces of the shield mass of claim 21. In Schmitt et al., there are no passages. In both Daoud et al. and Shastri et al., U.S. Patent 6,471,193, the surfaces of walls of the passages clearly do not extend directly between opposite surfaces of the shield mass. Instead, the Daoud et al. and Shastri structures are shield meshes with highly circuitous passages.

Claim 23 requires the largest dimension cross sections of the passages between the opposite surfaces of the shield mass to be no more than 10% of the wavelength of the highest frequency in the range. Page 1, lines 18-20 and page 5, line 7 provides antecedent basis for this feature that is not disclosed by the applied art.

Claim 24 requires the walls of the passages to have a substantially constant cross sectional area between the opposite surfaces of the shield mass, a feature not disclosed by any of the applied references, as discussed previously. Claim 26 requires the passage walls to include grounded electrically conductive painted surfaces, while claim 25 requires the passage walls to include grounded electrically conductive tubes. There is no disclosure in the applied references of such passage walls to be electrically conductive tubes. While Daoud et al. discloses electrically painted surfaces, there is no disclosure of such passages having surfaces that extend directly between opposite surfaces of a shield mass.

Claim 30, that also depends on claim 21, requires the wall to include a grounded electrically

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conductive portion including an opening in which the grounded shield mass is included. A holder on the wall maintains the shield mass in place in the opening. The holder is arranged and the opening and shield mass have geometries so that all peripheral edges of the opening abut corresponding edges of the shield mass, except where the holder is located. The holder is electrically conductive so that an electric connection between the shield mass and the ground wall is established through the holder. There is no disclosure in the applied references of such a combination.

Independent claim 31 is directed to a structure for shielding electromagnetic energy from a first side of the structure to a second side of the structure. The structure is required to include a grounded, electrically conductive portion including an opening in which a grounded shield mass is included. A holder on the portion maintains the shield mass in place in the opening. The holder is arranged, and the opening and shield mass have geometries so that all peripheral edges of the opening abut corresponding edges of the shield mass, except where the holder is located. The holder is electrically conductive so that an electric connection between the shield mass and the portions is established through the holder. The applied art fails to disclose such a combination.

Claim 32 depends on claim 31, and distinguishes over the applied art by requiring the portion to include an edge having an indentation in which the holder is located. The holder includes a slot in which an edge of a shield mass is located. In this regard, the attention of the Examiner is directed to Figures 2 and 3 of the application as filed, and the description thereof in the specification.

Claim 33 depends on claim 31, and requires the shield mass to include passages with electrically conductive surfaces, sized and shaped to substantially prevents escape of electromagnetic radiation having frequencies in a known frequency range from the first to the

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second side of the structure, and provide a relatively low thermal impedance path for escape of thermal energy from the first side of the structure to the second side of the structure.

Claim 34 requires the structure of claim 33 to be such that the surfaces of the passage include electrically conductive passages that extend directly between opposite surfaces of the shield masses, and between the first and second sides of the structure.

Independent claim 35 is directed to a structure for shielding electromagnetic energy from a first side of the structure to a second side of the structure. The structure comprises an electrically conductive shield mass having passages with electrically conductive surfaces sized and shaped to substantially prevents escape of electromagnetic radiation having frequencies in a know frequency range from the first side to the second side of the structure, and provide a relatively low thermal impedance path for escape of thermal energy from the first side of the structure to the second side of the structure. The passages include electrically conductive walls that extend directly between opposite surfaces of the shield mass. As previously discussed, none of the applied references include passages with electrically conductive walls that extend directly between opposite surfaces of a shield mass.

Claim 36 depends on claim 35, and is allowable therewith. In addition, claim 36 requires the longest dimension of cross sections of the passages between the opposite surfaces of the shield mass to be no more than 10% of the wavelength of the highest frequency in a range of frequencies generated on the first side of the structure. Claim 37 depends on claim 36, and indicates the walls of the passages have a substantially constant cross sectional area between the opposite surfaces of the shield mass. Claims 38 and 39 depend on claim 35. Claim 38 requires the passage walls of claim 35 to include grounded electrically conductive tubes, while claim 39 requires the passage walls to include grounded electrically conductive painted surfaces. While Daoud et al. discloses painted

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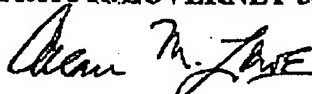
surfaces, the painted surfaces do not extend directly between opposite surfaces of a shield mass.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance are respectfully requested and deemed in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 08-2025, and please credit any excess fees to such deposit account.

Respectfully submitted,

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